

REMARKS

Claims 1, 9, 13, 15 and 18 are now in the application. Claims 1, 13 and 15 have been amended to recite “for use in pretreatment of cationic electrocoating for a substance to be treated, at least a part of which comprises an iron material”, “an amino group-containing”, “the amino group-containing water-soluble epoxy compound having an isocyanate group is obtained by allowing an epoxy compound selected from the group consisting of bisphenol F epichlorohydrin type epoxy compound containing an amino group and a bisphenol A epichlorohydrin type epoxy compound containing an amino group to react with partially blocked polyisocyanate, and a content of the amino group-containing water-soluble epoxy compound having an isocyanate group” and “and wherein the pH of the agent is 1.5 to 6.5”. In view of the amendments to claims 1, 13 and 15, claims 3, 7 and 10 have been cancelled without prejudice or disclaimer. In addition, claims 2, 11, 14, 17 and 21 have been cancelled without prejudice or disclaimer. The claims reciting that the epoxy is “an amino group-containing water-soluble epoxy compound having an isocyanate group” and “is obtained by allowing an epoxy compound selected from the group consisting of bisphenol F epichlorohydrin type epoxy compound containing an amino group and a bisphenol A epichlorohydrin type epoxy compound containing an amino group to react with partially blocked polyisocyanate” are now directed to those embodiments that provide the most favorable results. Along these lines, please see page 14, lines 14 to 16 and Examples in the specification including Production Examples 3, 4 and 6¹ and Examples 1, 3, 4, 8, 9 or 10.

The amendments to the claims do not introduce any new matter.

Claims 1, 3 and 7-10 were again rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 3,964,936 to Das in view of WO01/48264 to Sako. Claims 2, 11, 13-15, 17, 18 and 21 were again rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 3,964,936 to Das in view of WO01/48264 to Sako and further in view of US Patent 5,449,415 to Dolan. The cited references fail to render obvious claims 1, 9, 13, 15 and 18.

¹ Please note that in Production Example 6, that the reference to “epoxy compound F” seems to be a typographical error and apparently should have been “epoxy compound H” as shown in Table 3.

By way of background, the chemical coating agent of the present invention recited in the claims as amended makes it possible to form a good chemical conversion coating even on an iron material. Prior to the present invention, it has not been possible to form a chemical conversion coating with sufficient adhesiveness by the use of the conventional surface treating agent comprising a zirconium compound as discussed in the present specification at page 2, lines 22 to 25.

Further, the feature of presently amended invention relates to a chemical conversion coating agent for use in pretreatment of the cationic electrocoating to form a chemical conversion coating film sufficient enough to give an adhesiveness of the cationic electrocoating film on the chemical conversion coating film as disclosed in the specification at page 23, lines 14 to 16.

Soaking of a substance to be treated, which comprises an iron material, into the chemical conversion coating agent adjusted in the specified pH range as defined in the presently amended claims will raise the pH at the interface between the metal and the aqueous solution. This results in the epoxy compound containing an amino group being easily deposited on the surface of the metal, and thereby making it possible to obtain a chemical conversion coating film such as an amino group-containing water-soluble epoxy compound having an isocyanate group deposited on the surface of film comprised of zirconium or the like as disclosed in the specification at page 7, line 34 through page 8, line 13.

Since the chemical conversion coating film thus obtained includes an isocyanate group (blocked), the isocyanate group will be allowed to react with the epoxy compound or the active hydrogen contained in the electrocoating agent to generate an urethane crosslinking, thereby making it possible to form a tough electrocoating film and then a favorable adhesiveness with cation electrocoating film can be thought to be obtained. The above mentioned reaction of the isocyanate group with the epoxy compound or the active hydrogen will occur due to the temperature rise at the time of baking conducted after chemical conversion coating treatment, electrocoating and water-rinsing.

That is, according to the presently claimed invention, i.e., by using a reaction type chemical conversion coating agent, it is made possible to attain a cationic electrocoating excellent in the coating film adhesiveness (SDT) and the corrosion resistance (CCT) derived from an adhesiveness between chemical conversion coating film and metal material by

conducting the pretreatment of the cationic electrocoating of a substance to be treated which comprises an iron material.

In contrast thereto, the cited art, “Das” suggests a chemical conversion coating agent containing zirconium and fluorine not containing chromium. It is, however, noted that the agent is merely for use on aluminum, not for use in the substance to be treated which comprises an iron material. Further, Das nowhere discloses any of the water-soluble epoxy compounds according to the present invention.

“Sako” suggests a cation modified epoxy resin “ADEKARESIN” and using an isocyanate crosslinking agent. It is, however, noted that Sako nowhere discloses “the amino group-containing water-soluble epoxy compound having an isocyanate group” defined in the presently claimed invention.

“Dolan” suggests a chemical conversion coating agent containing hydrogen peroxide not containing chromium. It is, however, noted that Dolan nowhere discloses “the amino group-containing water-soluble epoxy compound having an isocyanate group” defined in the presently claimed invention.

For reasons mentioned above, it is noted that the presently Claims 1, 8 and 9 would not be rendered obvious over Das and Sako, and that the amended Claims 13, 15 and 18 would not be made obvious over Das, Sako and Dolan.

The mere fact that the cited art may be modified in the manner suggested in the Office Action does not make this modification obvious, unless the cited art suggest the desirability of the modification or there is well reasoned and articulated rationale. This is not present in the present record. The Examiner’s attention is kindly directed to *KSR Int’l Co. v. Teleflex, Inc*, 127 S.Ct. 1727; 82 USPQ2d 1385 (2007), *In re Lee* 61 USPQ2d 1430 (Fed. Cir. 2002), *In re Dembicczak et al.* 50 USPQ2d. 1614 (Fed. Cir. 1999), *In re Gordon*, 221 USPQ 1125 (Fed. Cir. 1984), *In re Laskowski*, 10 USPQ2d. 1397 (Fed. Cir. 1989) and *In re Fritch*, 23, USPQ2d. 1780 (Fed. Cir. 1992).

Also, the cited art lacks the necessary direction or incentive to those of ordinary skill in the art to render a rejection under 35 USC 103 sustainable. The cited art fails to provide the degree of predictability of success of achieving the properties attainable by the present invention needed to sustain a rejection under 35 USC 103. See *KSR Int’l Co. v. Teleflex, Inc*, supra,

Diversitech Corp. v. Century Steps, Inc. 7 USPQ2d 1315 (Fed. Cir. 1988), *In re Mercier*, 187 USPQ 774 (CCPA 1975) and *In re Naylor*, 152 USPQ 106 (CCPA 1966).

Moreover, the properties of the subject matter and improvements which are inherent in the claimed subject matter and disclosed in the specification are to be considered when evaluating the question of obviousness under 35 USC 103. See *KSR Int'l Co. v. Teleflex, Inc.*, *supra*; *Gillette Co. v. S.C. Johnson & Son, Inc.*, 16 USPQ2d. 1923 (Fed. Cir. 1990), *In re Antonie*, 195 USPQ 6 (CCPA 1977), *In re Estes*, 164 USPQ 519 (CCPA 1970), and *In re Papesch*, 137 USPQ 43 (CCPA 1963).

No property can be ignored in determining patentability and comparing the claimed invention to the cited art. Along these lines, see *In re Papesch*, *supra*, *In re Burt et al.*, 148 USPQ 548 (CCPA 1966), *In re Ward*, 141 USPQ 227 (CCPA 1964), and *In re Cescon*, 177 USPQ 264 (CCPA 1973).

In view of the above, consideration and allowance are respectfully solicited.

In the event the Examiner believes an interview might serve in any way to advance the prosecution of this application, the undersigned is available at the telephone number noted below.

The Office is authorized to charge any necessary fees to Deposit Account No. 22-0185, under Order No. 21581-00310-US from which the undersigned is authorized to draw.

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Respectfully submitted,

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